

Utah Department of Transportation Traffic Management Division

August 2015
Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov

Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

Traffic Operations Center



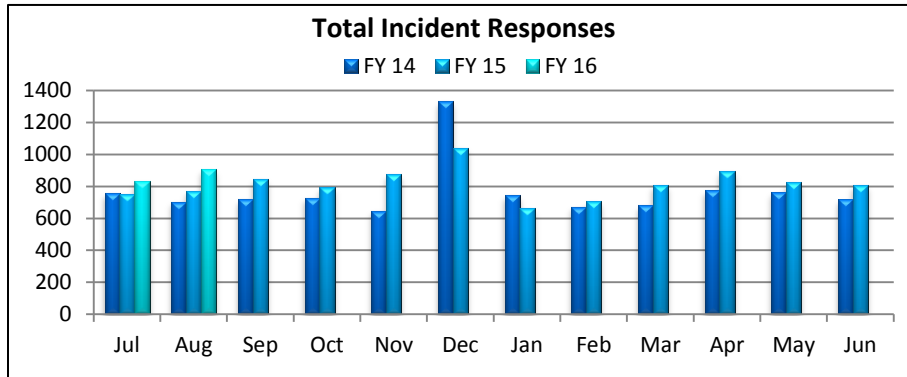
Field Devices Summary

Freeway PTZ Cameras	370
Surface Street PTZ Cameras	447
RWIS & Contracted Weather Cameras	209
Viewable Detection Cameras	67
Total Cameras	1093
Freeway VMS	96
Surface Street VMS	49
Portable TOC VMS	6
Legacy Trucks Prohibited VMS	21
Variable Speed Limit VMS	15
Chain-Up Signs	14
Total VMS	201
HAR (27 permanent/5 portable)	32
RWIS	98
Ramp Meters	63
TMS	538
Express Lane Plazas	63
Traffic Signals	2103

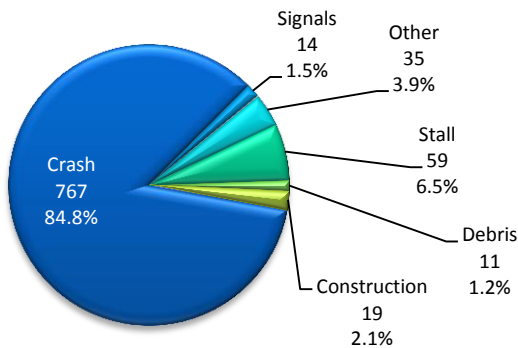
Operations Summary

VMS Messages Displayed	84,041
Signal Timing Work Orders	39
Signal Maintenance Work Orders	169
All New Work Orders	478
Work Orders Closed During the Month	481
Incident Responses by the TOC	905
Incident Duration Average Minutes	58
IMT Assists	2204
Website Visitor Sessions	94,754
511 Calls	4,989
Weather Desk Calls	188
Ask Commuterlink Questions	28
Average Speed AM Peak (07:00-08:00)	62.74
Average Speed PM Peak (17:00-18:00)	57.08
Incidents Using Signal Timing Assistance	63
UDOT Traffic Followers and Re-tweets	394,746
UDOT Traffic App Total Downloads	3,930

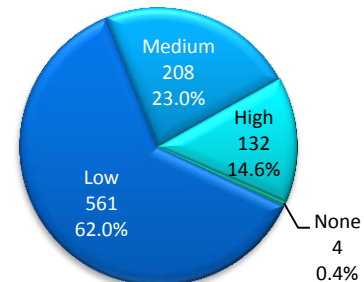
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



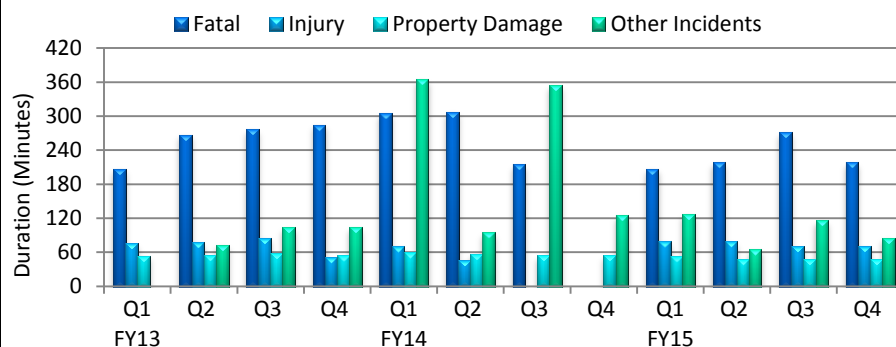
Incidents By Type for August 2015



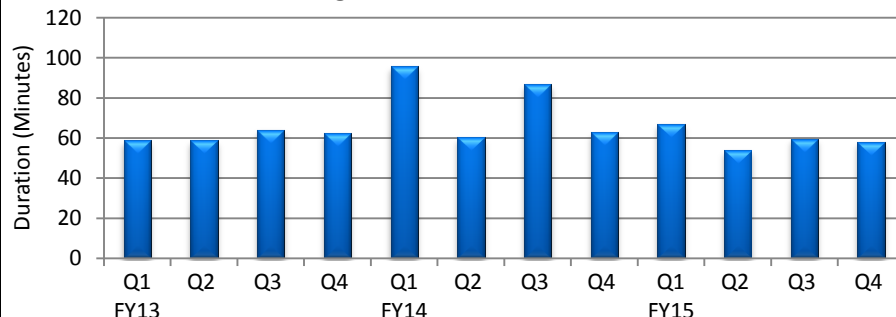
Incidents by Severity for August 2015



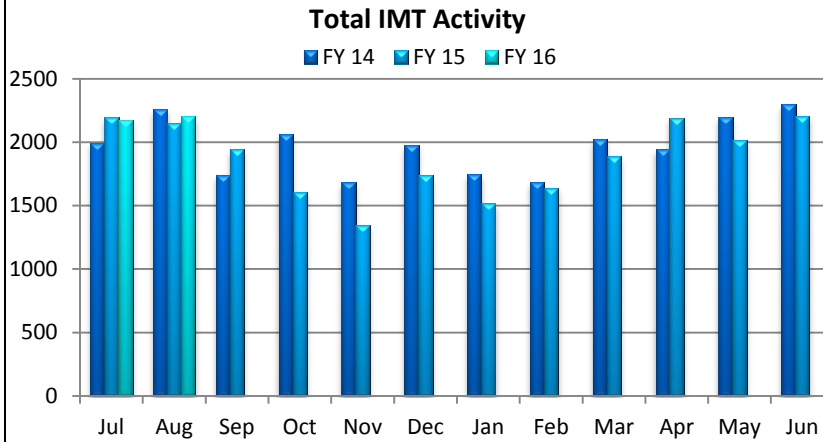
Average Crash Duration



Average Duration of All Incidents

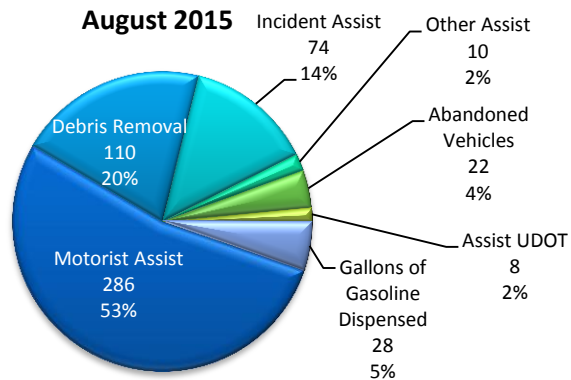


Incident Management Team (IMT) Activities



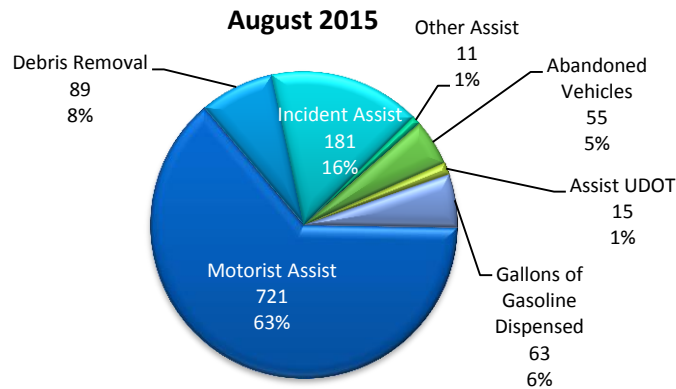
IMT Activities by Type for UDOT Region 1

August 2015



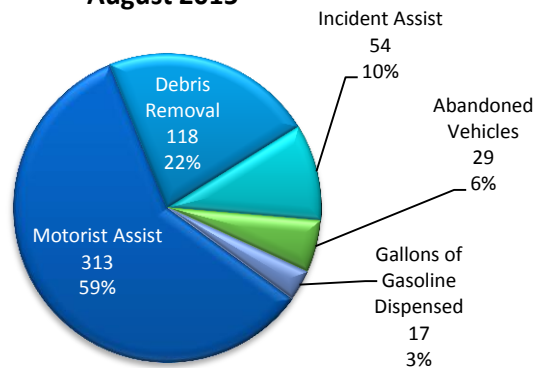
IMT Activities by Type for UDOT Region 2

August 2015



IMT Activities by Type for UDOT Region 3

August 2015



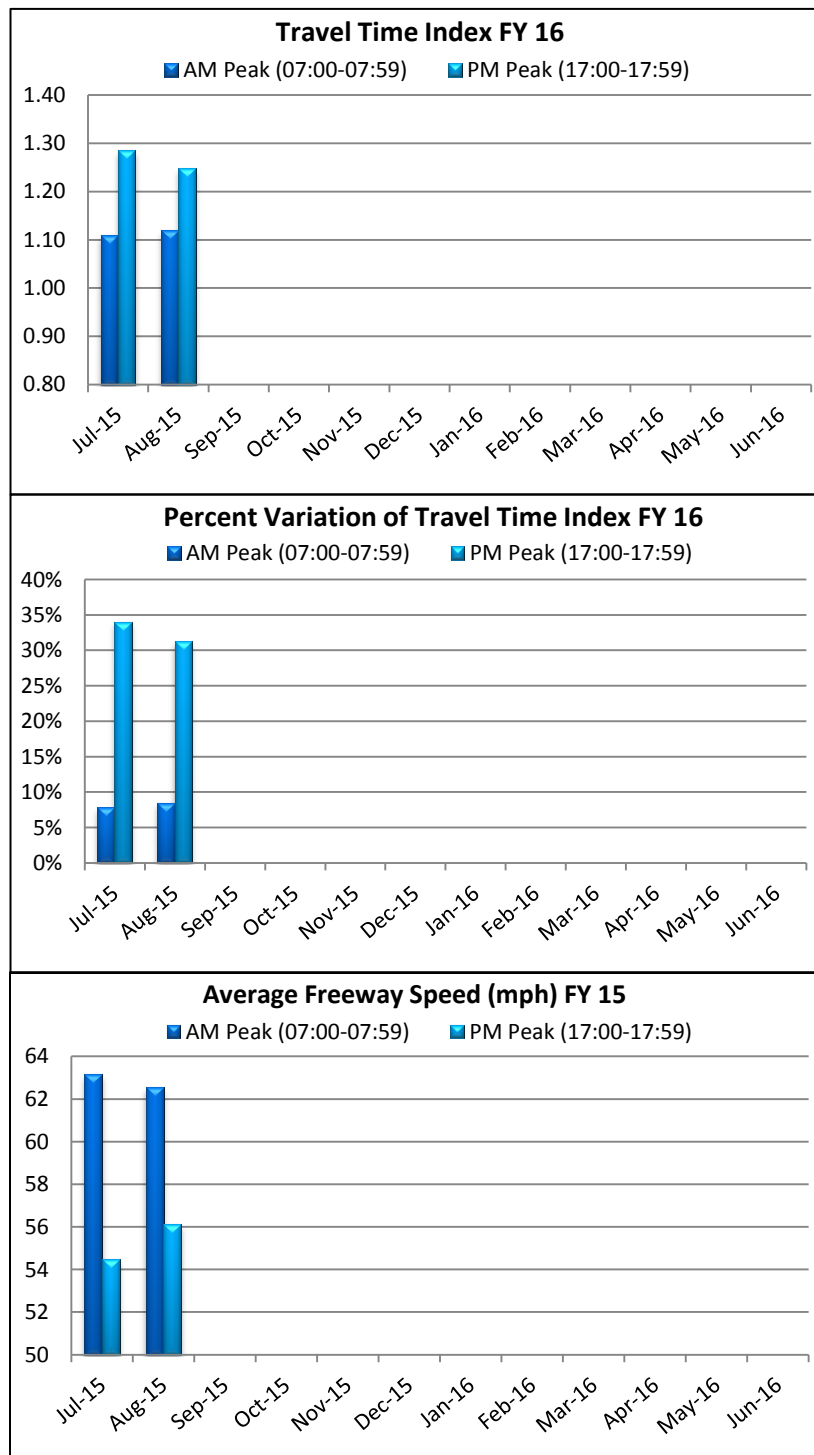
Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

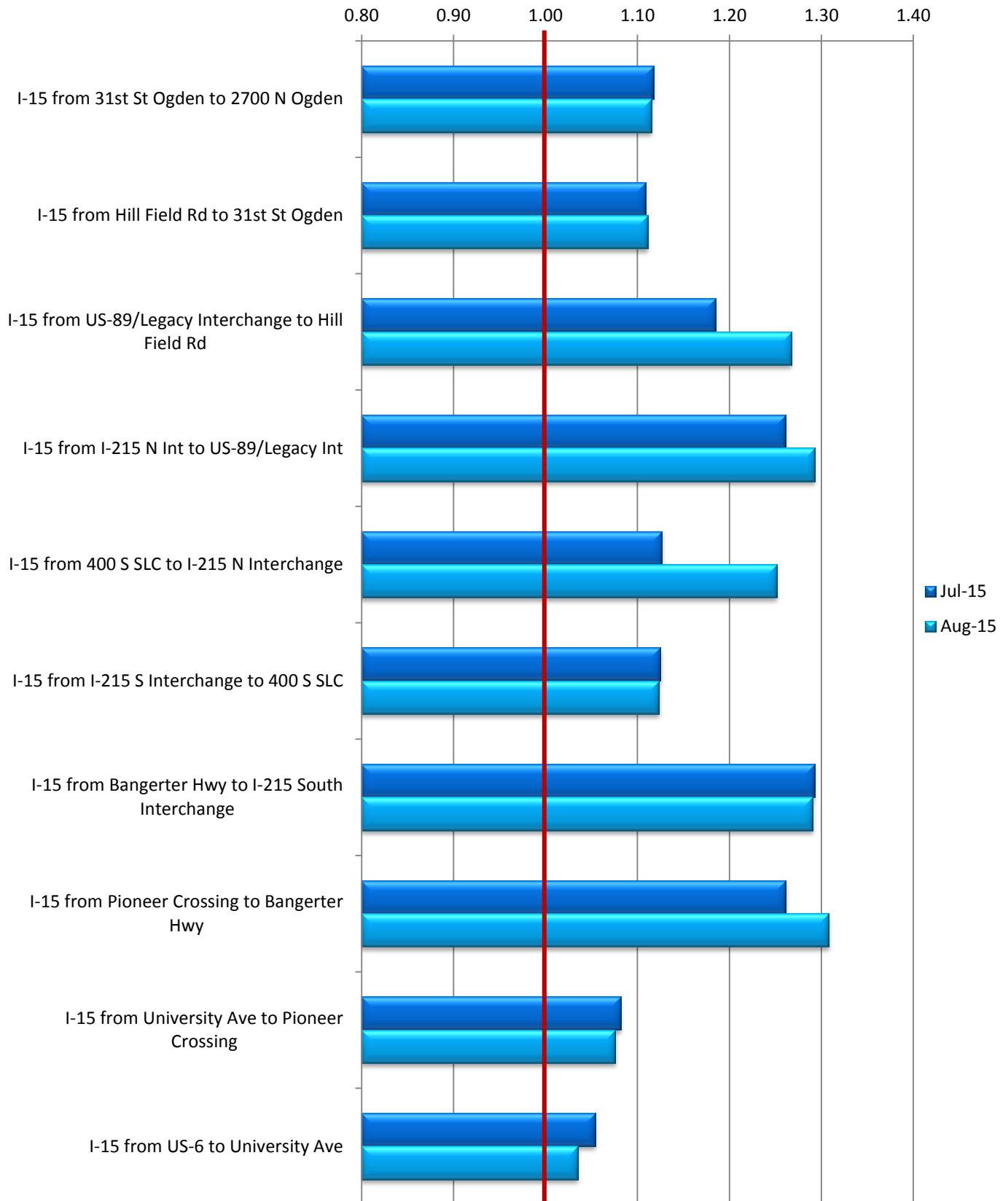
Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

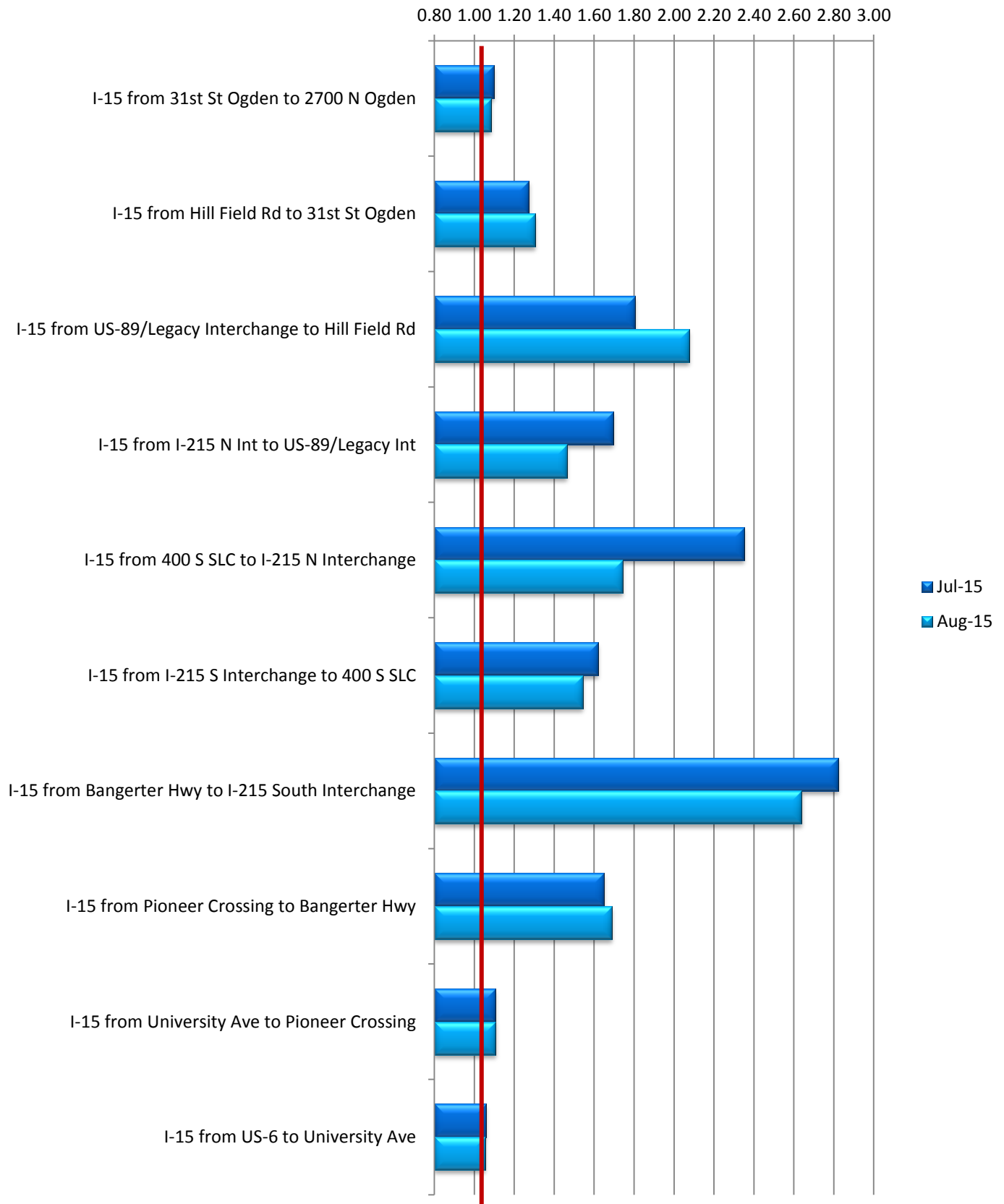
Average Freeway Speed: The freeway speed is weighted by volume.



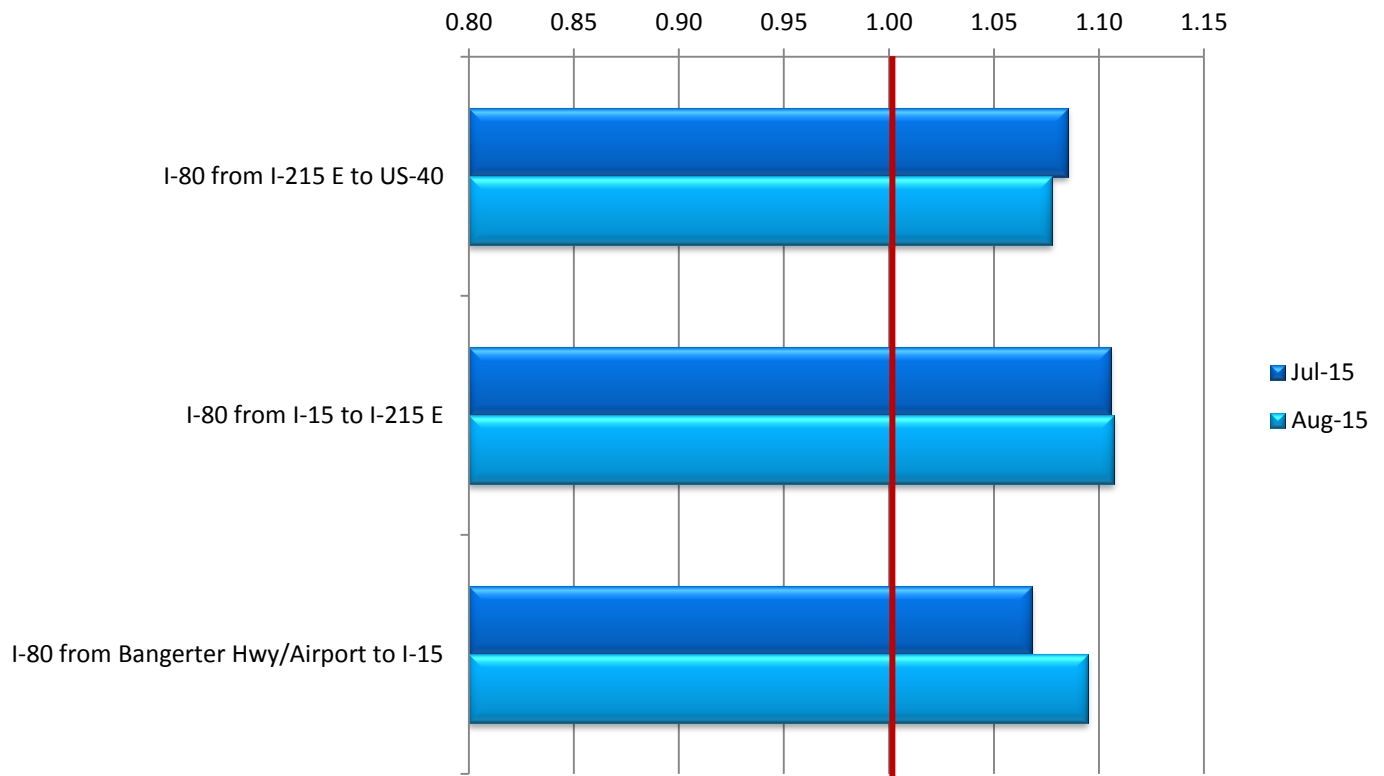
AM Peak Travel Time Index for I-15 FY 16



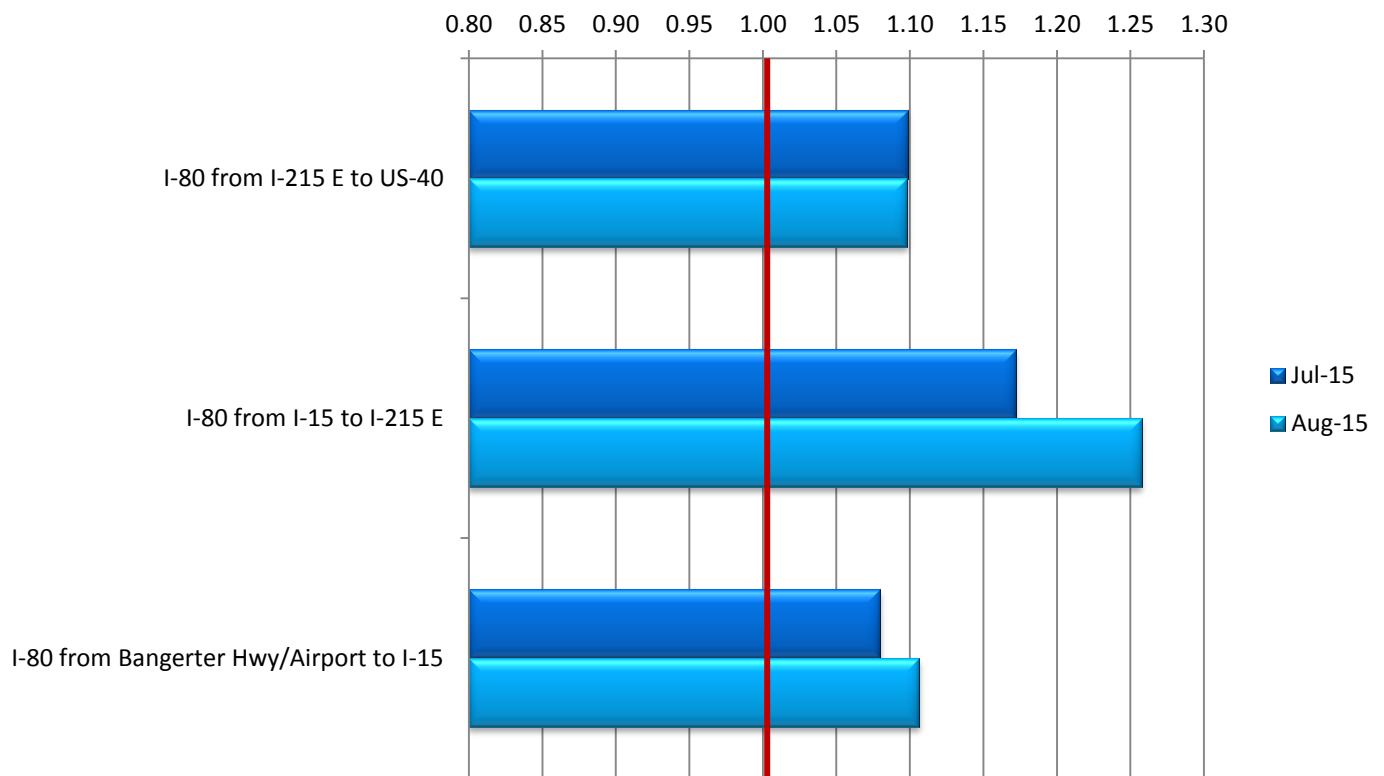
PM Peak Travel Time Index for I-15 FY 16



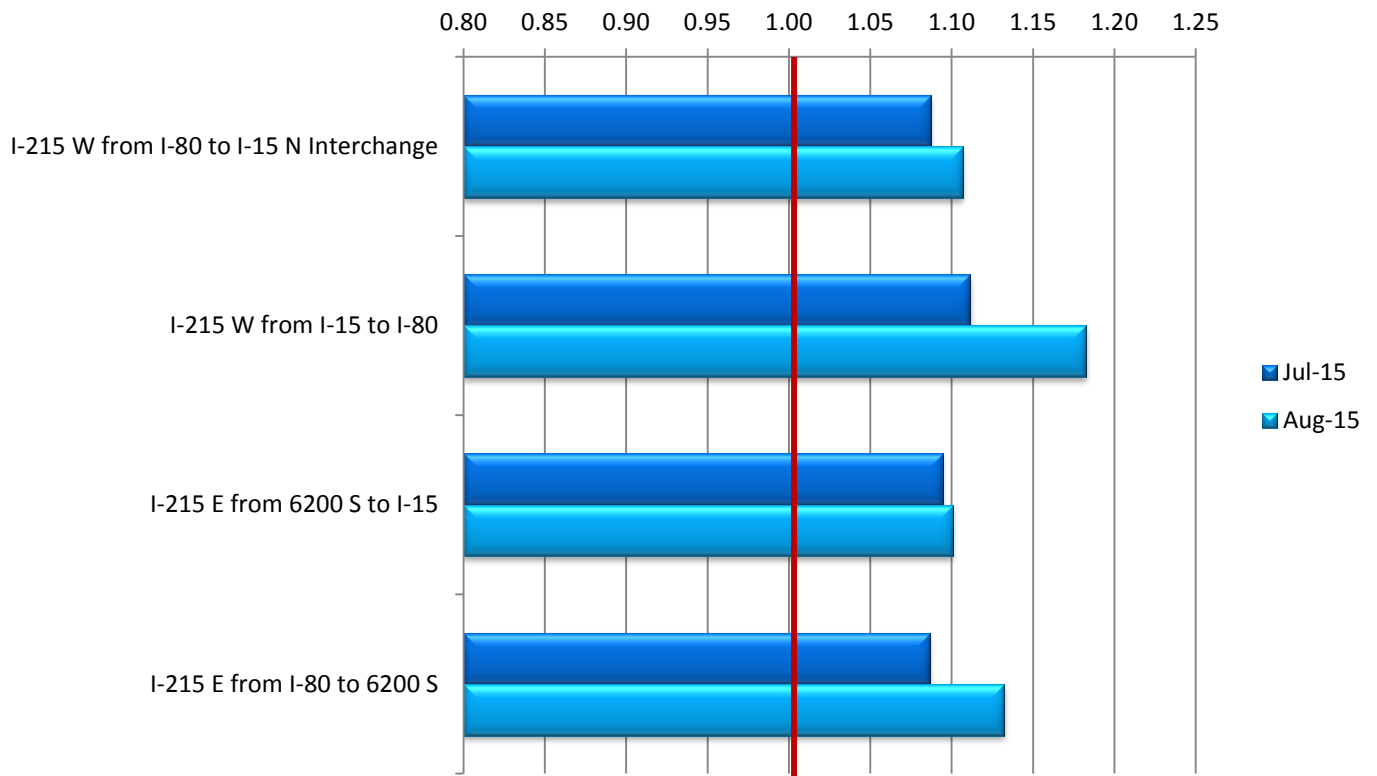
AM Peak Travel Time Index for I-80 FY 16



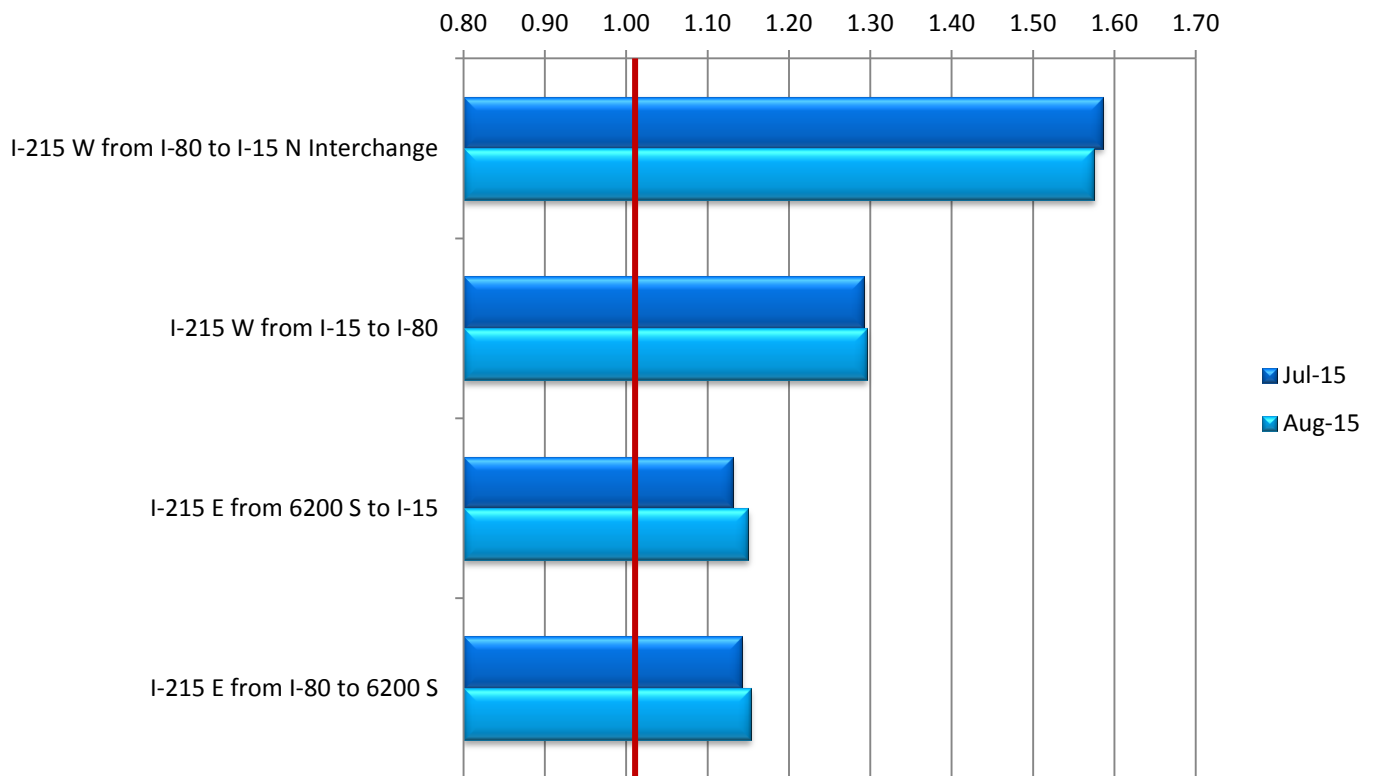
PM Peak Travel Time Index for I-80 FY 16



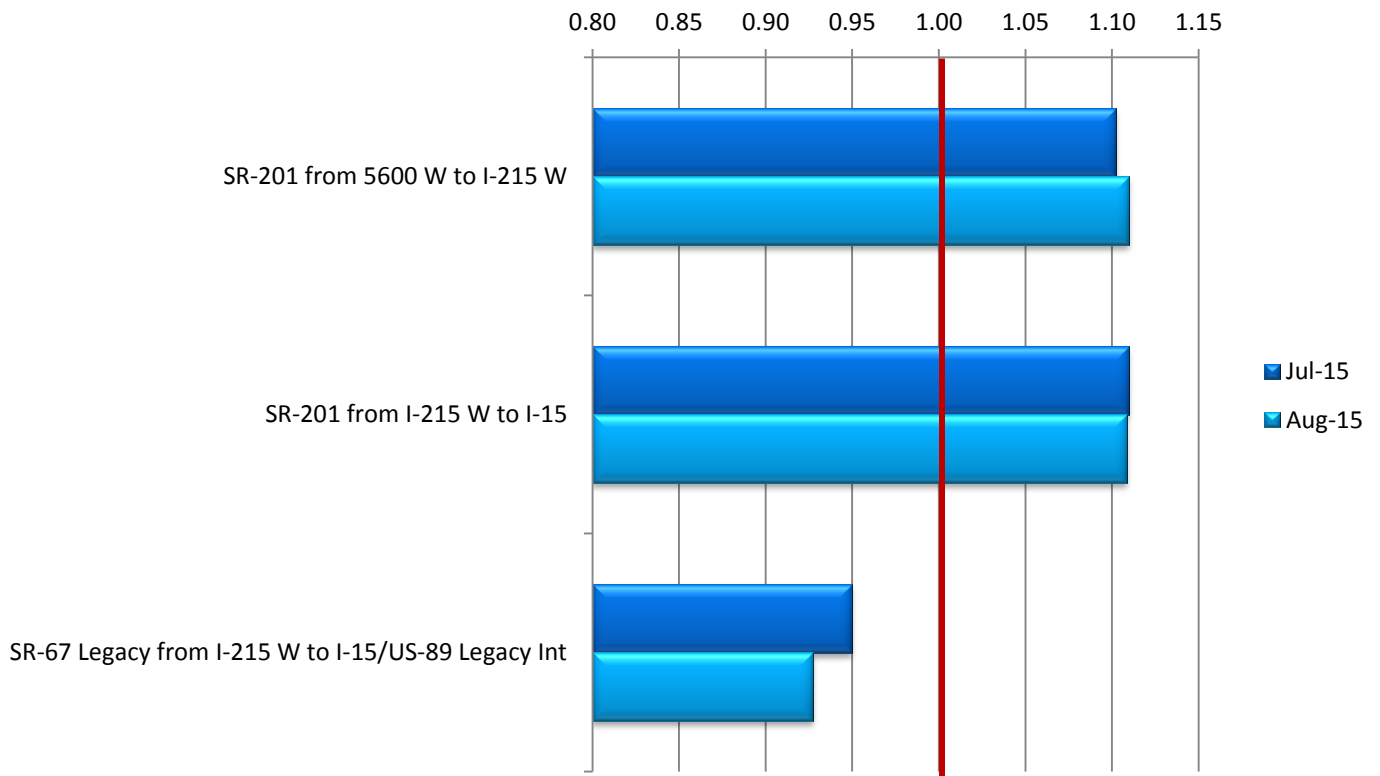
AM Peak Travel Time Index for I-215 FY 16



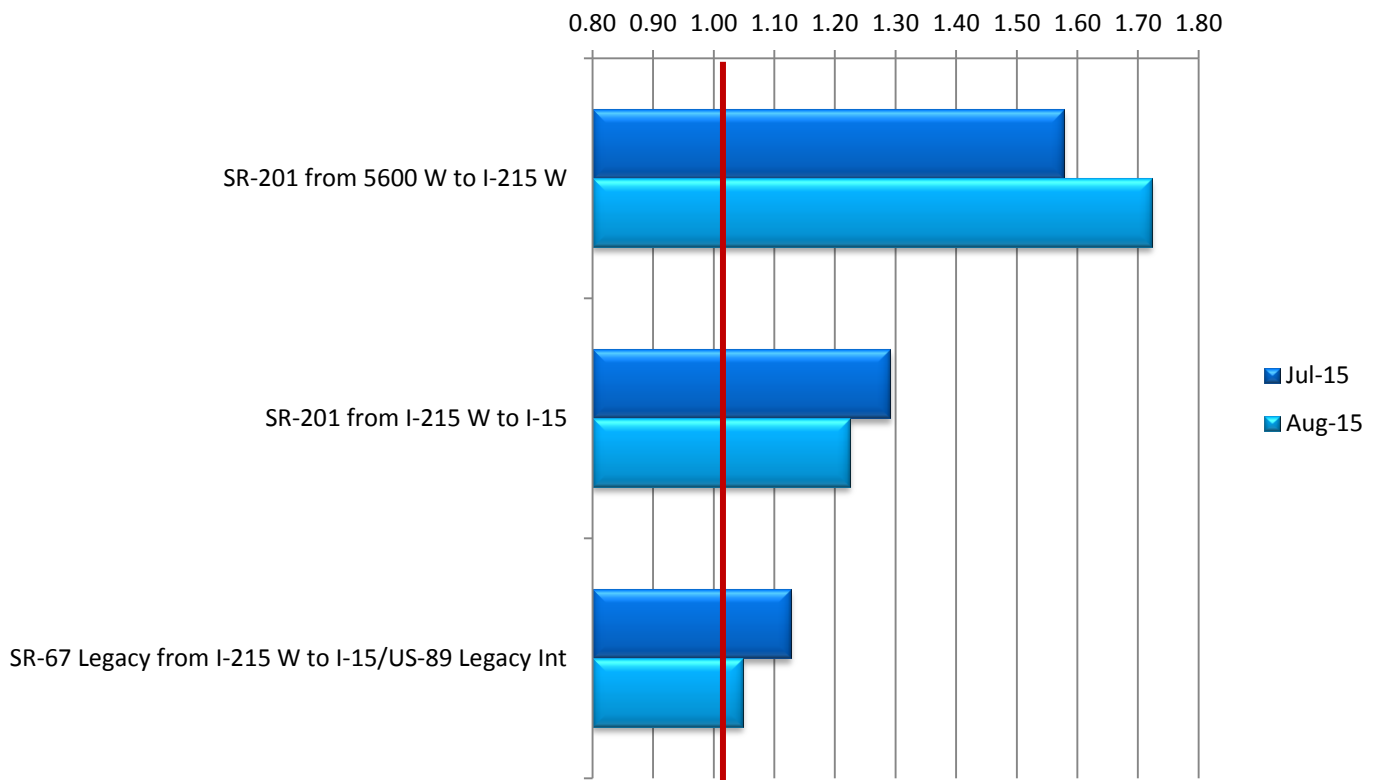
PM Peak Travel Time Index for I-215 FY 16



AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 16

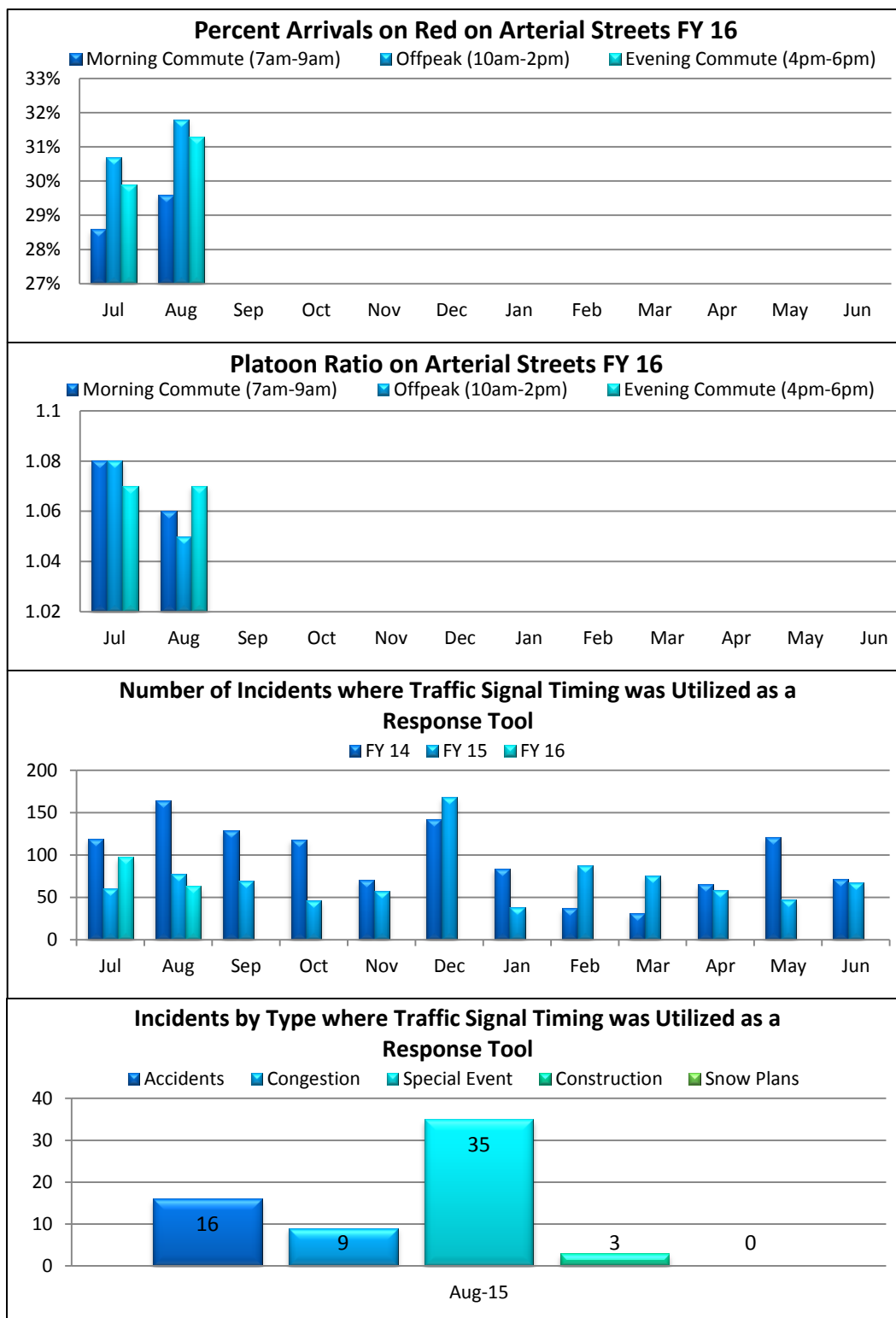


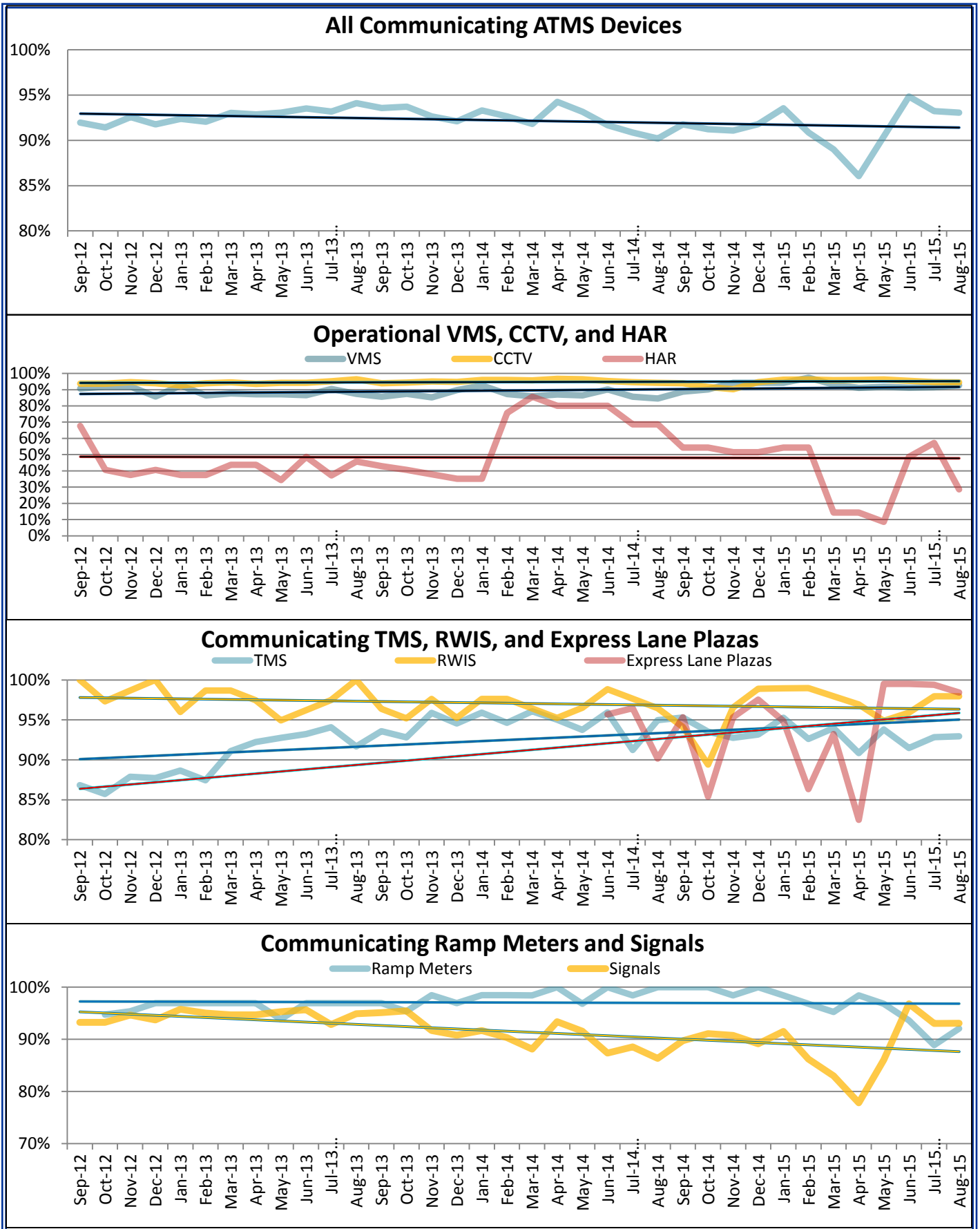
PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 16



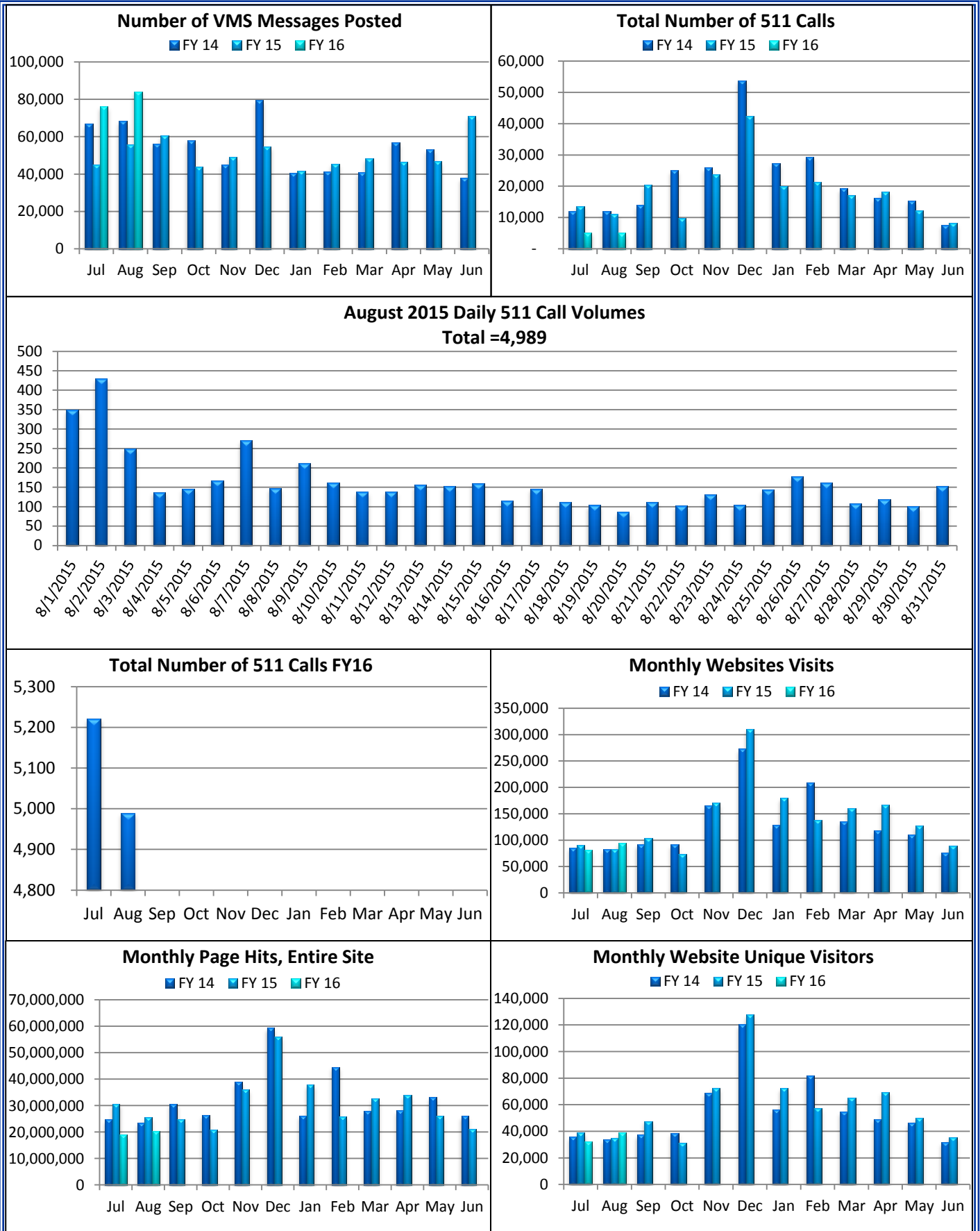
Arterial Traffic Level of Service

The percent arrival on red along the arterial statistics are generated automatically through the automated traffic signal performance measures, which show real-time and historical functionality at signalized intersections. The system automatically time-stamps when each vehicle arrives at the intersection and then compares the detection time-stamp if the phase was green or red. The percent arrival on red data is averaged over the 24 hours of the day and days in the month. . The lower charts shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.

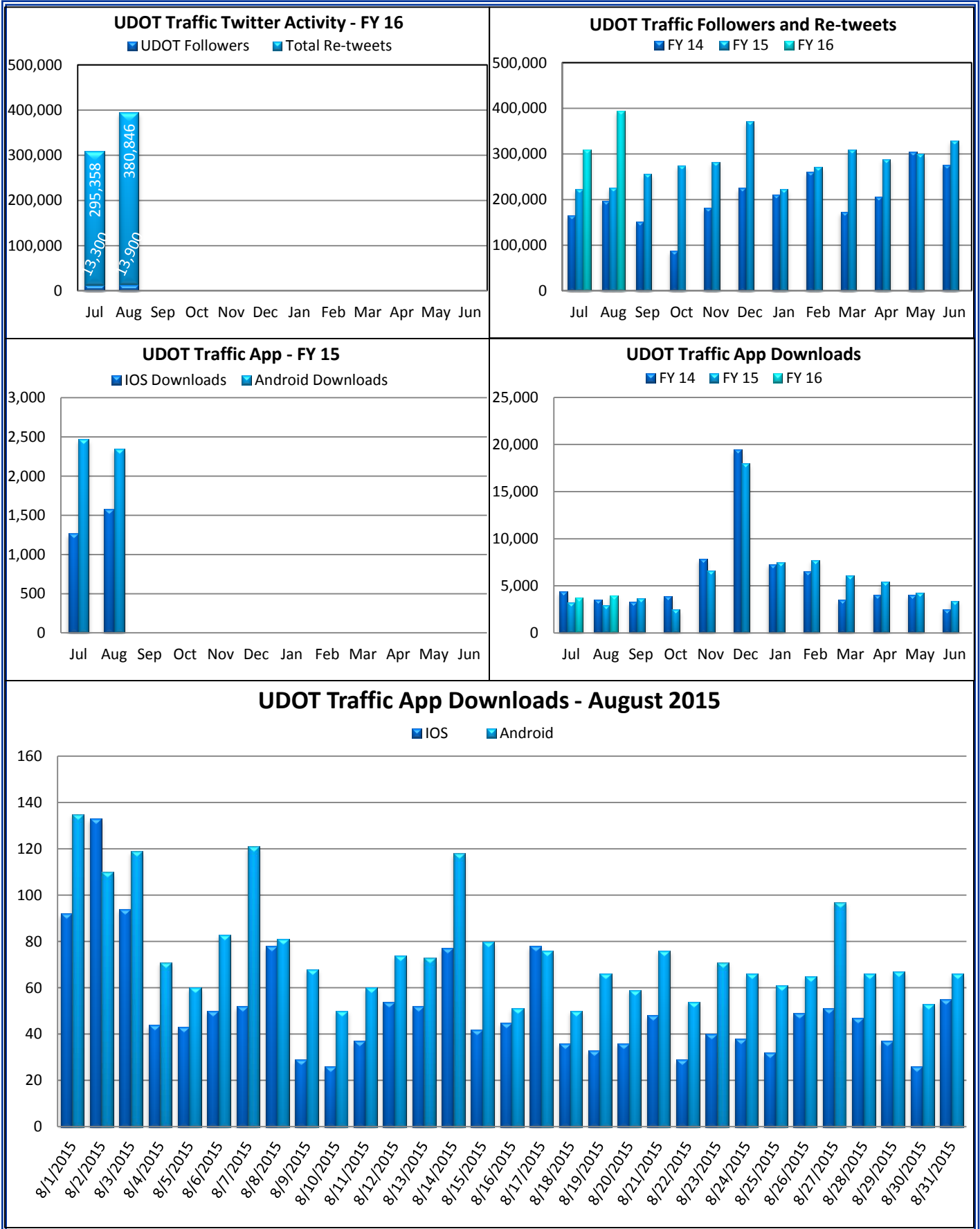




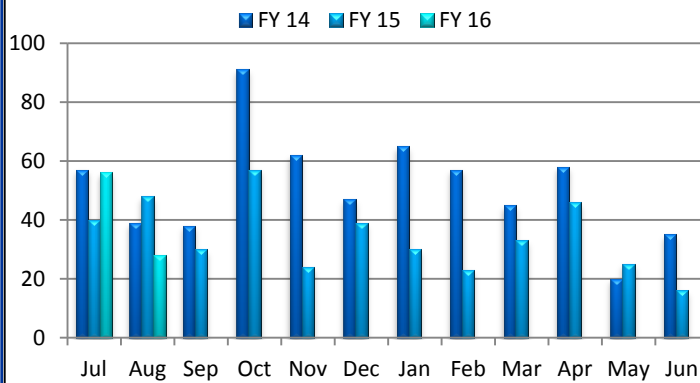
Traveler Information



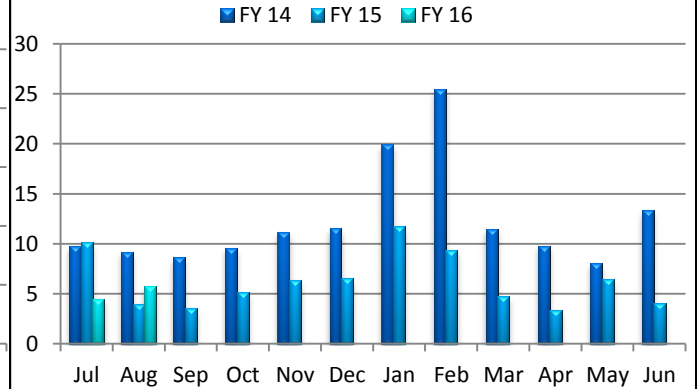
Social Media



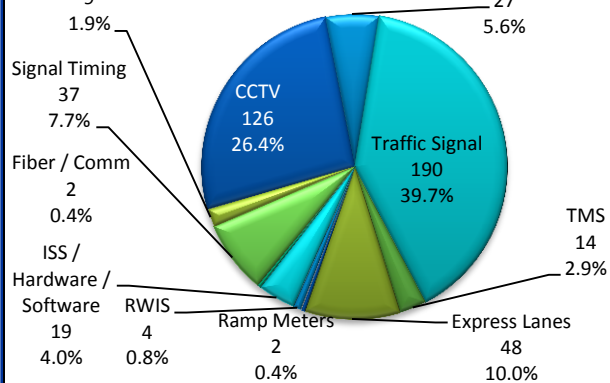
Number of "Ask UDOT Traffic" Questions



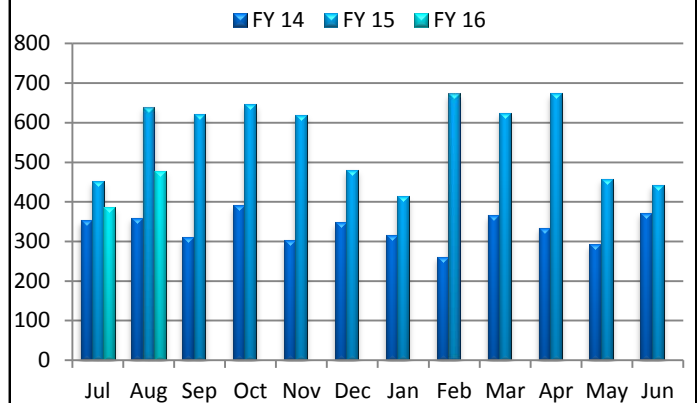
Overall Average Work Order Turnaround Days



New Work Orders by Device Type August 2015

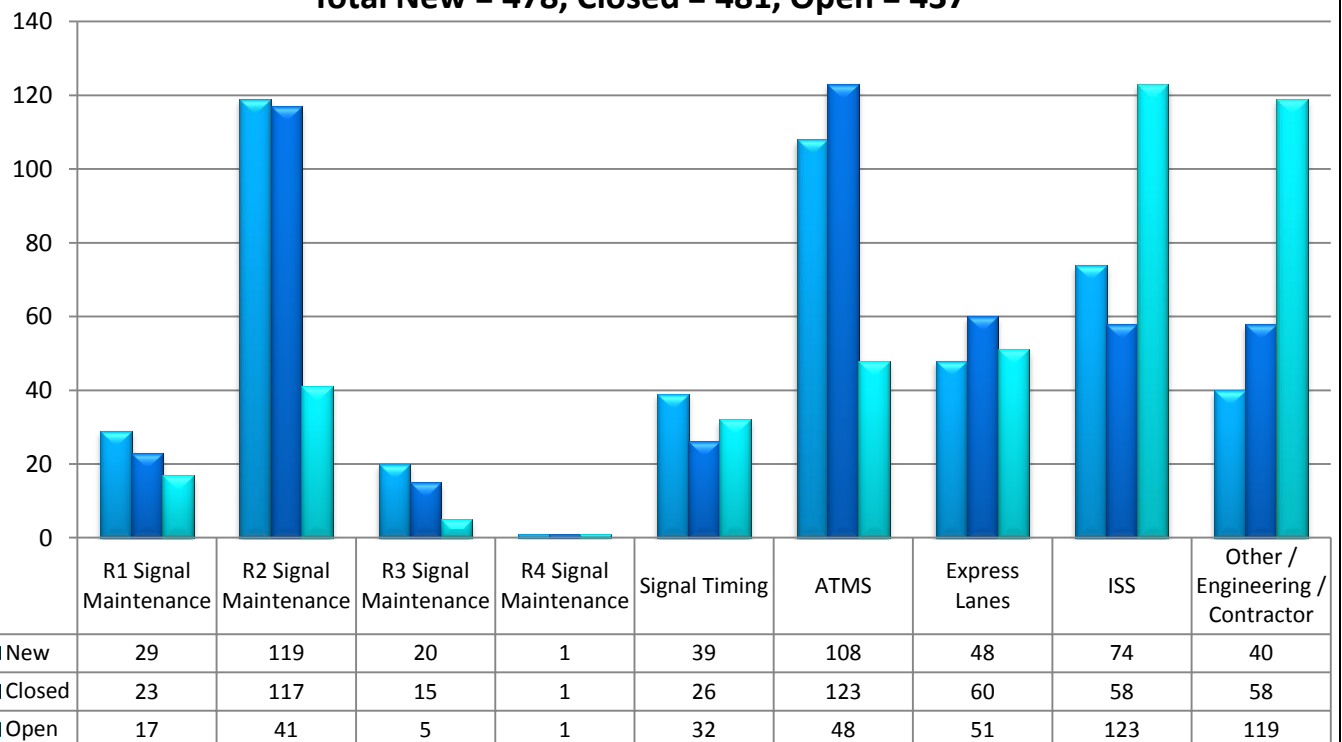


Number of New Work Orders



Work Order Statistics by Group - August 2015

Total New = 478, Closed = 481, Open = 437



CONTROL ROOM

The Control Room began using reference points to locate incidents for the public, rather than mile posting when generating J-pages, which are often copied verbatim on UDOT social media sites. For example, an incident would be located at 9000 South, rather than MP 295 on I-15. Reference points are used in roughly 70% of J-pages currently sent.

Operators managed 884 incidents and handled 1282 phone calls in addition to daily tasks and assignments. The control room has been working with Traffic and Safety composing “Message Monday” VMS public service announcements and “Fatality Friday” statistics focusing on the number of days per week a traffic related fatality did not occur. Air Quality alerts were also activated several times in the month of August. Traffic Operations Center Liaison was activated 11 times in the month of August for various incidents.

Localized heavy rains and winds resulted in closures and incidents. US-6 was fully closed August 2nd from a rock slide. TOCL was active for this event, UDOT IMT from region 3 responded, and the TOC used all resources for traveler info outreach. On August 7th there was a high wind event with winds of up to 76 mph recorded on I-15. TOCL was active for this event, and the control room used widespread VMS messaging to warn drivers of rough conditions.

The Control room supported a full closure of Legacy Parkway 08/15 – 08/17, with VMS messaging playing a huge role in informing drivers of the closure. No major delays or accidents resulted from this closure. The Traffic Operations Center also utilized event manager, 511, and emergency alerts for the closure. The Control Room also supported the I-15 Point Project, the I-15 South Davis Project, the I-215 repaving project, and the I-80 Wanship project.

The Control Room also played a major part in supporting the Thanksgiving Point Golf Tournament, held the last of August and into the first week of September, by operating five portable VMS, and sending alerts on social media and 511. The event went smoothly with little to no traffic delays.

The Tour of Utah Bicycle Race, held August 3-9, provided a challenge to the Control Room. The race was held in several parts of the state, and was a moving event, requiring extended road closures. 511, emergency alerts, special event alerts, and VMS signing were used to support the event.

TRAVELER INFORMATION

Traveler Information presented about the UDOT 511 Strategic Planning Project at the National Rural ITS conference. TOC tours were hosted for the new RUDOT Employee Communications Manager, Oklahoma DOT, and various National ITS Conference attendees. Several media interviews were conducted about the new VMS Zero Fatalities messaging program.

WEATHER INFORMATION

The Weather Room had 135 overall UDOT weather interactions, 68 outgoing weather alerts, and an NWS collaboration.

Climatology

August was relatively average for temperatures and precipitation statewide. Salt Lake International Airport was slightly warmer and wetter than normal. Due to very dry and warm conditions in the Pacific Northwest however, Utah saw a large influx of smoke from fires in that region during the middle of August.

Weather Operations

The National Rural ITS Conference was held at Snowbird. Members of the Weather group attended and presented about the Snow and Ice Performance Measure work (formerly the Road Weather Index). Conference-goers toured the TOC while the conference was in session.

The Oklahoma DOT spent two days touring and learning about the weather operations. They have expressed interest in developing weather services/RWIS for their state.

The Weather Group also attended a Pathfinder Project meeting in Cheyenne at the end of the month. The Pathfinder Project is intended to help other state DOTs, the National Weather Service, and private sector weather service providers collaborate to provide a unified message to the public. The UDOT Weather Group has been doing this for a number of years.

A portable RWIS was installed on I-80 near Dry Lake, and near Sardine Summit (this location is a frost pocket and tends to see gusty winds and truck blow-overs as well). Progress also continued on the RWIS stations and associated website for the Snow and Ice Performance Measure.

For the current monthly climate outlook, please visit: <http://www.nw-weather.net.com/UDOTMonthlyOutlook.pdf>

For the current seasonal outlook, please visit: <http://www.nw-weather.net.com/UDOTSeasonalOutlook.pdf>

TRAFFIC SIGNAL OPERATIONS

Region 1

The I-15 at 2600 South controller logic that will improve traffic flow was finished. A triple left turn lane was installed at US-89 and 2600 South. US-89 and Skyline Drive intersection was reconstructed and a new signal was installed at SR-273 and 5000 West.

Region 2

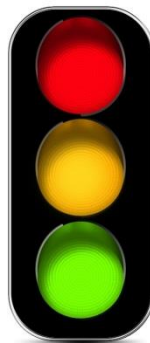
Conversion to the new signal operating system was begun. A Peer-to-Peer system at Mountain View Corridor and 9000 South was installed.

Region 3

A new TS2 signal cabinet with generator transfer switches were installed at a number of locations. A new HAWK signal at US-40 and Union Street in Roosevelt was activated. Assisted American Fork City install a HAWK signal at the high school and an advanced warning sign at the US-6 off ramp was installed in Spanish Fork.

Region 4

There was replacement of a knocked down signal pole, mast arm, signal heads, and detection at SR-9 and 2260 West in Hurricane. Installation of 27 new LED streetlights in several areas and installed traffic signal backplate reflective tape in Price, Beaver, Hurricane and Moab.



TRAFFIC OPERATIONS AND REPORTING

Project List

- ❖ Congestion reporting.
- ❖ Road and lane closure window guidelines.
- ❖ Redwood Rd/California Ave project signal support.
- ❖ Governor's performance metric.
- ❖ Managed Motorways.
- ❖ Sandy C/D project.
- ❖ Bluetooth Detectors.
- ❖ Region 3 support.
- ❖ Provo/Orem BRT.
- ❖ East/West travel in Salt Lake County.
- ❖ Presented to the Nation Rural ITS Conference.
- ❖ PeMS procurement.
- ❖ I-215/SR-201 interchange analysis.
- ❖ ICM project kick-off.
- ❖ Region 4 support.
- ❖ Preparations for the PTOE exam.
- ❖ Presented to Oklahoma DOT.
- ❖ I-80/State St EIS.
- ❖ I-215 pavement preservation project.
- ❖ Strategic Goal metric preparation.
- ❖ Wasatch Front Central Corridor Study.
- ❖ ATMS prioritization.
- ❖ Moab Main Street corridor study.
- ❖ I-215 North end congestion study.
- ❖ Vistro demonstration.
- ❖ Detector validation testing.
- ❖ St. George planning.



ATMS MAINTENANCE

Field and Lab Teams performed the initial Pine Creek Canyon Project LFOT in Region 4. A second trip to the project will be required as all sites failed the test. The team completed repairs and replaced batteries and LED boards on several VMS in the area on the same trip. They also resolved power issues to ATMS sites in Big and Little Cottonwood Canyons.

Field Team and Region 2 Signals reconstructed the radio activated “Prepare to Stop” signs at the 700 South 5600 West railroad crossing. The team designed and ordered materials to reconstruct four chain-up signs in Big Cottonwood Canyon at Brighton Ski Resort, Solitude East and West Ski Resorts, and Cardiff Fork.

Field Team

The Field Team continued to work with Diane Silcox to complete the security upgrade for the radio hop at 6200 South and 5600 West. The Field Team completed 108 work orders.

Lab Team

The Lab Team tested and repaired 14 ATMS devices, reset seven switches and port servers, and tested four traffic signal cabinets. Additionally, two traffic signal cabinets were burned in for Region 2 traffic signal as replacements for knock downs. Three stationary VMS were tested.

The Electronics Lab closed 14 work orders during the month of August.

Express Lane Team

The Express Lane Team closed 60 work orders. VTMS rebooted seven signs and reconfigured five lane controllers. Rebooted three clusters and repaired/configured five clusters. We replaced one reader on the South Davis County Project with Contractor and Integrator. The team completed 12 Cabinet PMs and five lane PMs. We also replaced five sets of detector pucks and performed five Davis County Project inspections and repairs.



ITS Standards and Specifications

- ❖ Attended the August 27, 2015 Standards Committee meeting and presented supplemental specifications 13555M - ATMS cabinet, 13556M - CCTV assembly, and 13559M - Non-Intrusive Detector and Supplemental Drawing AT12 CCTV Foundations For CCTV Poles.
- ❖ Work continued for the Electronic Toll Control systems. These are on track to be introduced in the October 22 Standards Committee meeting.
- ❖ Supplemental Specifications 13431 Precast Concrete Fiber Optic and Utility Vault, 13553 ATMS Conduit, 13554 Polymer Concrete Pull Box, and 13594 Fiber Optic Communication were submitted to Barry Axelrod for review. These are on track for the October 22 meeting.
- ❖ HNTB produced Supplemental Drawings AT1, AT6, AT7A, AT7B, AT10E, AT18, AT19, AT20, AT21, AT22, AT23, and provided revisions as needed. They were all reviewed by Barry Axelrod and are on track for the October 22, 2105 meeting.
- ❖ Work continued on the NEC review of all Standards and Specifications. A meeting was held on August 20, 2015 to hear comment and discussion between the Narwhal Group's Electrical Engineer and the TOC's Electricians and Electronic Technicians. TOC Management also attended and participated in the discussions. Topics included grounding and bonding, electrical conductor sizing and others.
- ❖ Work on the Solar Sites is on hold until all Supplemental Drawings and Specifications for October 22, 2015 are accepted.
- ❖ Work on the new I-215 EB and I-15 NB VMS Concept Report was put on hold while the October Standards Package received priority.

Procurement

- ❖ Work continued on the IP-CCTV development. Chuck Felice and John Amidon continued to develop the IP CCTV module in the TranSuite software.
- ❖ Work continued on the Field ITS Ethernet Switch contract. A new State Procurement RFP Format was introduced in July 2015. Problems arose with fitting the older "tight material" into the new format, resulting in some delays in this RFP production.

REGION ONE

- ❖ **Statewide Signal Interconnect:** This has been changed to a larger scope and will be called Statewide Signal Interconnect. PineTop Engineering has been working on the design for this to advertise.
- ❖ **Antelope and US-89:** This project is under construction nearly complete.
- ❖ **200 N. 300 W. Kaysville:** This is under construction.
- ❖ **I-15; SR-30 to the Idaho State line:** This project has been designed by PineTop Engineering and is ready to advertise. This project needs major funding for ATMS. This project may be part of a partnership with a telecom.
- ❖ **Layton Interchange:** This project is in design.
- ❖ **200 N. and Flint St.:** This project is complete.
- ❖ **US-89; Antelope Drive Extension:** This project is under construction.
- ❖ **Logan CCTV's:** This project is under construction.
- ❖ **SR-126 and 1300 N.:** This project is under construction.

REGION TWO

Several newly upgraded intersections receive new traffic cameras. Having a camera at signalized intersections is becoming fairly standard. This is a needed feature for Signal Operations to see performance of detection and timing plans, as well as adjustments for incidents, events and construction lane closure impacts. The new locations are at 5300 South and 700 West, and replacing an older camera at 4500 South and 700 East.

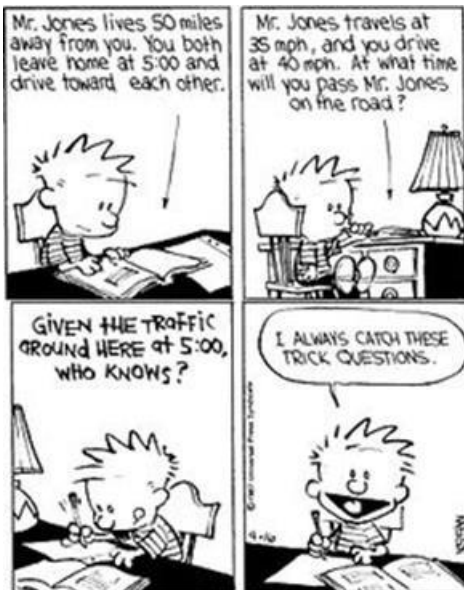
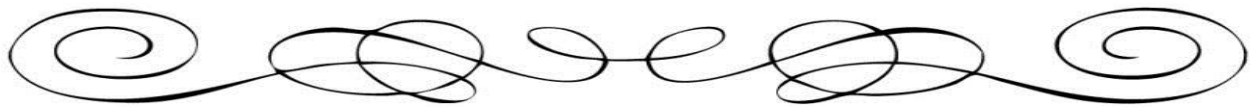


REGION THREE

- ❖ **SR-92 CCTV/Hybrid VMS (12641):** Static signs and wireless radios installed.
- ❖ **Saratoga Springs; Pony Express; SR-68 to 800 West (8581):** Project ongoing. Anticipate CCTV installation and signal integration in late September.
- ❖ **Region 3 traffic signal connections (12774):** Working on cooperative agreement with Spanish Fork City to connect three signals through their cable network.
- ❖ **US-40 CCTV/Signal connections (12805):** Circuits to six locations have been established. STRATA ordered circuit electronics to make signal connections.
- ❖ **Vernal; US-40 @ 2100 West Signal/CCTV (13018):** Construction scheduled for mid October.
- ❖ **Roosevelt; US-40 @ 2000 West Signal/CCTV (12980):** Construction scheduled for mid September.
- ❖ **Provo Canyon RWIS/VMS (11410):** Project in advertising.
- ❖ **US-189; State Park to Rock Cut passing Lanes (11415):** Design ongoing.
- ❖ **Fiber connection to three Maintenance Sheds (13681):** Negotiating contract to install fiber drops to Lehi and Saratoga shed locations.
- ❖ **SR -92; Utility relocate for BOR easement (13707):** Bids all came in to high. Decided to relocate NID as an isolated project.
- ❖ **Spanish Fork; SR-156; 1000 North to I-15 (13687):** Project under construction.
- ❖ **Roosevelt; US-40 @ Union St. (HAWK) (13808):** Project complete.
- ❖ **Roosevelt; US-40 @ 1500 East Signal/CCTV (13853):** In design.
- ❖ **Provo; SR-256; 800 East to Univ Ave BRT (10266):** Provided potential ITS deployment scope.
- ❖ **US-40; Myton Bench roadway widening (11358):** Attended plan in hand review meeting.

REGION FOUR

- ❖ **Pine Creek Truck Climbing Lane:** This project is under construction. Issues with solar sites are being mitigated.
- ❖ **Fiber upgrade for US-6, Helper and Price Signal Integration:** Telecom work has been completed. UDOT is ready to complete the final contractor package for a procurement contract.
- ❖ **Beaver Truck Climbing Lane:** Project is under construction.
- ❖ **Cedar City Fiber:** Project is in design. We are ready for procurement.
- ❖ **Beaver Shed and Fiber HUB:** This project is in design. We are ready for procurement.



Acronyms

CCTV	Closed Circuit Television	DPS	Department of Public Safety
EIS	Emergency Information System	HAR	Highway Advisory Radio
I2TMS	Integrated Interagency Traffic Management System		
ITS	Intelligent Transportation System	LFOT	Local Field Operations Test
MIC	Manager in Charge	MOT	Maintenance of Traffic
RWIS	Road-Weather Information System	TAC	Technical Advisory Committee
TMD	Traffic Management Division	TMS	Traffic Monitoring Station
TOC	Traffic Operations Center	VMS	Variable Message Sign

